

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242683

Luminaire Tested: S124DRP-S575D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242683
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S575D930-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

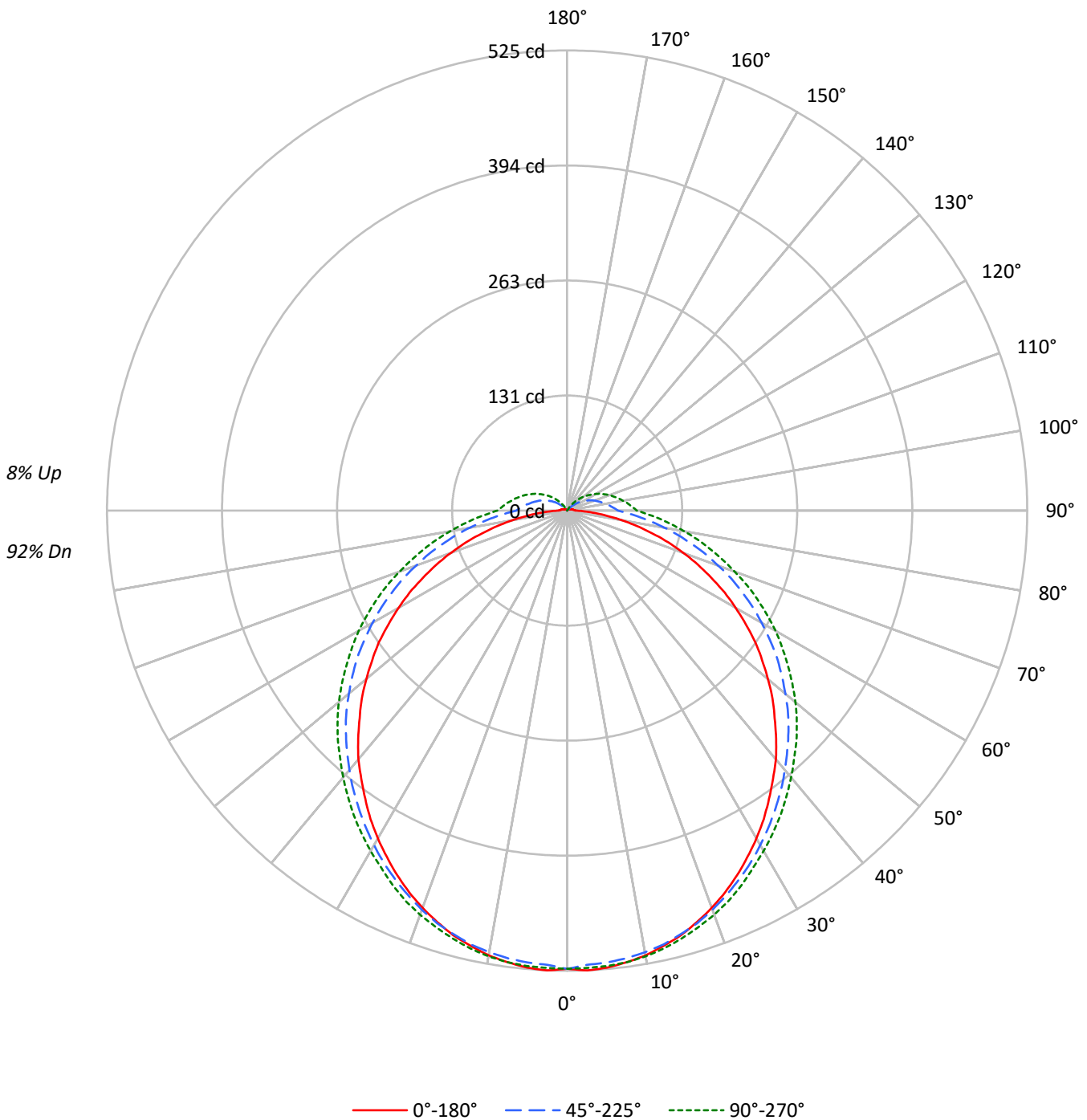
Lumens per Lamp: N/A
Luminaire Lumens: 1782.3 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4647	4647	4647
5°	4661	4537	4548
10°	4633	4458	4451
15°	4590	4367	4339
20°	4528	4268	4230
25°	4457	4158	4111
30°	4380	4048	3988
35°	4293	3936	3881
40°	4224	3829	3769
45°	4121	3729	3672
50°	4033	3615	3569
55°	3944	3506	3449
60°	3803	3369	3339
65°	3649	3222	3203
70°	3463	3052	3046
75°	3202	2866	2902
80°	2911	2683	2755
85°	2538	2512	2656

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4121 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.5	2.8
10°-20°	141.9	8.0
20°-30°	214.6	12.0
30°-40°	259.6	14.6
40°-50°	274.4	15.4
50°-60°	258.3	14.5
60°-70°	214.3	12.0
70°-80°	150.4	8.4
80°-90°	84.8	4.8
90°-100°	50.5	2.8
100°-110°	37.4	2.1
110°-120°	25.1	1.4
120°-130°	14.1	0.8
130°-140°	6.1	0.3
140°-150°	1.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	406.0	22.8
0°-40°	665.6	37.3
0°-60°	1198.4	67.2
0°-90°	1647.9	92.5
90°-120°	112.9	6.3
90°-150°	134.4	7.5
90°-180°	134.0	7.5
0°-180°	1782.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	523	523	523	523	523	
5°	523	522	518	522	522	50
15°	502	502	500	506	505	141
25°	459	462	464	471	471	211
35°	402	409	414	423	424	251
45°	335	346	357	367	370	259
55°	262	275	292	304	307	234
65°	182	200	220	235	239	180
75°	101	122	147	163	169	107
85°	31	56	82	100	105	32
90°	9	33	58	75	80	6
95°	8	27	51	67	72	6
105°	5	17	39	53	58	6
115°	4	9	28	40	44	4
125°	2	2	16	28	31	2
135°	1	1	5	15	18	1
145°	1	0	0	4	6	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	522.8	522.8	522.8	522.8	522.8
2.5°	525.1	523.4	518.7	522.8	522.2
5°	523.4	521.6	517.5	522.2	521.6
7.5°	519.8	518.7	515.2	520.4	519.8
10°	515.2	514.6	511.6	516.9	516.3
12.5°	508.7	508.7	507.0	511.6	511.6
15°	501.7	502.3	500.5	505.8	505.2
17.5°	492.3	494.1	493.5	498.8	498.2
20°	482.4	484.1	484.7	490.6	490.6
22.5°	471.3	473.6	474.8	480.6	481.8
25°	459.0	462.5	464.2	470.7	471.3
27.5°	445.5	450.8	453.1	459.0	459.5
30°	432.0	436.7	440.8	447.2	448.4
32.5°	417.4	423.2	427.9	435.5	436.7
35°	401.6	408.6	414.5	422.7	424.4
37.5°	385.8	394.0	401.0	409.2	411.0
40°	370.6	378.2	386.4	395.1	397.5
42.5°	353.0	361.8	371.7	381.7	383.4
45°	334.9	346.0	357.1	367.0	370.0
47.5°	317.9	329.0	341.9	351.8	355.3
50°	299.1	312.0	324.9	336.6	340.1
52.5°	280.4	293.3	308.5	320.2	323.7
55°	262.3	274.6	292.1	303.8	307.3
57.5°	241.8	257.0	274.0	288.0	290.9
60°	221.9	237.1	256.4	269.9	274.6
62.5°	202.6	219.5	238.8	252.3	257.0
65°	181.5	200.2	220.1	234.7	239.4
67.5°	161.6	181.5	202.6	217.2	221.9
70°	141.1	161.0	183.2	199.0	203.1
72.5°	121.2	141.7	165.7	180.9	185.6
75°	100.7	122.3	146.9	163.3	168.6
77.5°	81.4	104.2	130.0	146.4	152.2
80°	63.8	87.2	113.0	130.5	135.2
82.5°	46.2	70.8	96.6	114.7	120.0
85°	31.0	55.6	82.0	99.5	105.4
87.5°	19.3	43.3	69.1	86.1	91.3
90°	9.4	32.8	58.0	74.9	79.6
92.5°	8.8	29.3	54.4	70.8	75.5
95°	7.6	26.9	50.9	66.7	72.0
97.5°	7.0	24.0	48.0	63.2	68.5
100°	6.4	21.7	44.5	60.3	64.4
102.5°	6.4	19.3	41.6	56.8	61.5
105°	5.3	17.0	38.6	53.3	58.0
107.5°	5.3	15.2	35.7	50.3	54.4
110°	4.7	12.9	33.4	46.8	51.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.1	11.1	30.4	43.3	48.0
115°	3.5	8.8	27.5	40.4	44.5
117.5°	3.5	7.0	24.6	36.9	41.6
120°	2.9	4.7	21.7	33.4	38.1
122.5°	2.9	2.9	18.7	30.4	34.5
125°	2.3	1.8	16.4	27.5	31.0
127.5°	2.3	1.8	13.5	24.0	28.1
130°	1.8	1.2	10.5	21.1	24.6
132.5°	1.8	1.2	8.2	18.1	21.7
135°	1.2	1.2	5.3	14.6	18.1
137.5°	1.2	0.6	2.9	11.7	14.6
140°	1.2	0.6	1.2	8.8	11.7
142.5°	0.6	0.6	0.0	6.4	8.8
145°	0.6	0.0	0.0	3.5	5.9
147.5°	0.6	0.0	0.0	0.6	2.9
150°	0.6	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.13	16.65	15.61	17.12	17.62	16.68	18.20	17.16	18.67	19.17
	3H	16.77	18.16	17.26	18.63	19.17	18.99	20.38	19.48	20.85	21.39
	4H	17.33	18.65	17.85	19.14	19.70	20.05	21.36	20.56	21.86	22.41
	6H	17.72	18.94	18.24	19.45	20.02	21.10	22.33	21.62	22.83	23.40
	8H	17.82	19.00	18.36	19.53	20.10	21.62	22.79	22.16	23.32	23.90
	12H	17.88	19.01	18.43	19.53	20.14	22.17	23.30	22.72	23.82	24.42
4H	2H	15.98	17.29	16.49	17.78	18.34	17.18	18.50	17.69	18.99	19.54
	3H	17.86	18.98	18.38	19.51	20.09	19.71	20.83	20.23	21.36	21.94
	4H	18.56	19.59	19.11	20.13	20.74	20.93	21.95	21.47	22.50	23.10
	6H	19.08	19.98	19.64	20.55	21.17	22.16	23.06	22.72	23.63	24.25
	8H	19.23	20.08	19.80	20.65	21.29	22.77	23.62	23.34	24.19	24.82
	12H	19.34	20.11	19.93	20.71	21.34	23.43	24.20	24.02	24.80	25.44
8H	4H	19.14	19.99	19.71	20.56	21.19	21.18	22.03	21.75	22.60	23.23
	6H	19.83	20.55	20.44	21.17	21.80	22.57	23.29	23.18	23.91	24.54
	8H	20.09	20.73	20.70	21.36	22.01	23.31	23.96	23.93	24.59	25.24
	12H	20.27	20.85	20.89	21.46	22.18	24.14	24.72	24.76	25.33	26.05
12H	4H	19.28	20.05	19.87	20.65	21.28	21.20	21.97	21.79	22.57	23.21
	6H	20.05	20.69	20.66	21.32	21.97	22.62	23.27	23.24	23.90	24.55
	8H	20.39	20.96	21.00	21.57	22.29	23.43	24.01	24.05	24.62	25.34